Listing of Claims

In the Claims:

Please amend the claims as follows:

1. (Original) A method of manufacturing an electronic component comprising at least one n-or p-doped portion, comprising the steps of:

co-depositing inorganic semi-conducting nanoparticles and dopant on a substrate, the nanoparticles comprising a group four element such as silicon or germanium;

fusing the nanoparticles by heating to form a continuous layer ; and subsequently ;

recrystallising the layer.

2. (Original) The method of claim 1, wherein the recrystallising step generates a continuous polycrystalline layer of doped semi-conducting material.

3. (Currently Amended) The method of claim 1 ~~or claim 2~~, wherein the nanoparticles have an average diameter in the range of 3-120 nanometres.

4. (Currently Amended) The method of ~~any one of claims 1 to 3~~ claim 1, wherein the step of fusing and/or recrystallising is carried out in a reducing atmosphere.

5. (Original) The method of claim 4, wherein the reducing atmosphere comprises approximately 2% hydrogen.

6. (Currently Amended) The method of claim 4 ~~or claim 5~~, wherein the reducing atmosphere comprises an inert gas, such as argon.

7. (Currently Amended) The method of ~~any one of claims 1 to 6~~ claim 1, wherein the step of fusing is carried out using one or more first laser pulses.

8. (Currently Amended) The method of ~~any one of claims 1 to 7~~ claim 1, wherein the step of recrystallising is carried out using one or more second laser pulses, subsequent to the first laser pulses.

9. (Currently Amended) The method of ~~any one of claims 1 to 6~~ claim 1, wherein the fusing step and/or the recrystallising step is carried out in an oven or the like.

10. (Original) The method of claim 9, wherein in the recrystallising step, the fused nanoparticles are cooled under predetermined conditions to cause recrystalisation.

11. (Currently Amended) The method of ~~any one of claims 1 to 10~~ claim 1, wherein the nanoparticles are deposited in a suspension of a carrier fluid.

12. (Original) The method of claim 11, wherein the carrier fluid comprises a dispersion agent, which stabilises the nanoparticles in suspension.

13. (Original) The method of claim 12, wherein the dispersion agent is a non-ionic surfactant such as polyethylene glycol (MW 200).

14. (Currently Amended) The method of ~~any one of claims 11 to 13~~ claim 11, wherein the nanoparticles are deposited in an inkjet printing process, or a digital offset printing process, or other digital printing process.

15. (Currently Amended) The method of ~~any one of claims 11 to 14~~ claim 11, wherein at least one dimension of the area on the substrate to be occupied by the nanoparticles is selected using a prior step of printing.

16. (Currently Amended) The method of ~~claims~~ claim 15, wherein the printing step is a soft contact lithographic printing process.

17. (Currently Amended) The method of claim 15 ~~or claim 16~~, wherein the printing process is arranged to deposit a material on the substrate, which limits the position of the carrier fluid when deposited on the substrate through hydrophilic/hydrophobic interaction.

18. (Currently Amended) The method of ~~claims~~ claim 17, wherein the material is paraffin wax dissolved in toluene or a similar hydrophobic material.

19. (Currently Amended) The method of ~~any one of claims 1 to 18~~ claim 1, wherein the recrystallised continuous structure forms the source, or drain, or gate region of a transistor, or a component of a p-n, n-p, p-n-p, or n-p-n junction.

20. (Currently Amended) The method of ~~any one of claims 1 to 19~~ claim 1, wherein the electronic component is a transistor, or capacitor, or a diode.

21. (Canceled)

22. (Original) A method of manufacturing an electronic component comprising at least one n-or p-doped portion, comprising the steps of:

co-depositing discrete nanoparticles of semi-conducting material with a dopant on a substrate;

fusing the nanoparticles with one or more first laser pulses to form an continuous structure; and subsequently;

recrystallising the continuous structure with one or more second laser pulses.

23. (Original) The method of claim 22, wherein the nanoparticles are substantially inorganic materials.

24. (Currently Amended) The method of claim 22 ~~or claim 23~~, wherein the nanoparticles are of a group four elements, such as silicon or germanium.

25. (Currently Amended) The method of ~~any one of claims 22 to 24~~ claim 22, wherein the nanoparticles have an average diameter in the range of 3-120 nanometres.

26. (Currently Amended) The method of ~~any one of claims 22 to 25~~ claim 22, wherein the duration of melting of the particles during the fusing step is longer than the duration of melting of the continuous structure during the recrystallisation step.

27. (Currently Amended) The method of ~~any one of claims 22 to 26~~ claim 22,

wherein the step of fusing or recrystallising is carried out in a reducing atmosphere.

28. (Original) The method of claim 27, wherein the reducing atmosphere comprises approximately 2% hydrogen.

29. (Original) The method of claim 28, wherein the reducing atmosphere comprises an inert gas, such as argon.

30. (Currently Amended) The method of ~~any one of claims 22 to 29~~ claim 22, wherein the electronic component is a transistor, a capacitor, or a diode.

31-62. (Canceled)

63. (Currently amended) ~~A method according to claim 61~~ The method of claim 22, wherein the deposited nanoparticles comprise nanoparticles formed of both a first semiconducting material and a second semiconducting material.

64. (Original) A method according to claim 63, wherein substantially all of the deposited nanoparticles comprise both the first and the second semiconducting material.

65-67. (Canceled)

68. (Currently amended) A method according to claim ~~61~~ 22, wherein the deposited nanoparticles are of a first material and the substrate comprises a recrystallised film of a second material.

69-70. (Canceled)

71. (Currently amended) A method according to ~~any one of claims 68, 69, or 70~~ claim 68, wherein the substrate is formed in a previous step, comprising the sub-steps: depositing nanoparticles on a further substrate; causing the nanoparticles to fuse and recrystallise to form a recrystallised film or layer.

72-73. (Canceled)

74. (Currently Amended) An electronic component, or a component thereof manufactured using the method of ~~any one of claims 61 to 73~~ claim 1.

75. (Original) A hetrojunction bipolar transistors according to claim 74.

76. (Original) A transistor comprising an inkjet deposited gate portion.

77. (Original) A transistor according to claim 76, wherein the gate portion comprises a substantially inorganic material.

78. (Original) A transistor according to claim 77, wherein the gate portion comprises a metal oxide, such asAl203, TiO2, orZr02 or a glass material.

79. (Original) A transistor according to claim 77, wherein the gate portion is formed from fused nanoparticles.

80. (Original) A transistor comprising an inkjet deposited n-or p-doped portion, the portion comprising substantially inorganic material.

81. (Original) A transistor according to claim 80, wherein the portion is formed from a group four element such as silicon or germanium.

82. (Currently amended) A transistor according to claim 80 ~~or claim 81~~, wherein the portion is formed from fused nanoparticles.

83. (Currently amended) A transistor according to ~~any one of claims 80 to 82~~ claim 80, wherein the portion comprises a recrystallised layer or film.

84. (Original) A method of manufacturing an electronic component having an

electrical characteristic dependent upon its geometry, comprising the step of defining at least one aspect of the geometry of the component using a contact lithographic printing process.

85. (Original) A method according to claim 84, the contact lithographic printing process printing a first material in a predetermined pattern onto a substrate, the method comprising the further step of depositing a second material onto the substrate, the second material forming a structure of the component and having a geometry that conforms to the pattern by virtue of hydrophilic-hydrophobic interaction.

86. (Currently Amended) A computer program or a computer program product comprising program code for performing the method steps of claim 1 ~~any one of claims 1 to 30, 41 to 49, 61 to 73, 84, or 85~~ when said program is run on a processing device associated with a suitable hardware.

87. (Currently amended) An electronic component or circuit produced according to the method of claim 1 ~~any one of claims 1 to 30, 41 to 49, 61 to 73, 84, or 85~~.

88. (Original) An apparatus arranged to fabricate an electronic component on a substrate, the apparatus comprising a lithographic stamp arranged to transfer a predetermined pattern of hydrophobic material to the substrate, the apparatus further arranged to deposit a hydrophilic liquid adjacent or onto the pattern such that the liquid forms a structure having a geometry conforming to the pattern, the component having an electrical characteristic dependent upon the geometry of the structure.